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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/550,454

03/10/2006

Thomas Peglow

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EXAMINER

WU, SHEAN CHIU

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

03/09/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/550,454	Applicant(s) PEGLOW ET AL.	
	Examiner Shean C. Wu	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 31, 39, 41, 49, 50 and 54 is/are rejected.
- 7) ☒ Claim(s) 6-28 and 32-54 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/26/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 6-28 and 32-54 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 6-28 and 32-54 have not been further treated on the merits.

Claim Rejections - 35 USC § 112

2. Claims 31, 39, 41, 49-50 and 54 provide for the use of a polymerizable dichroic dye, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 31, 39, 41, 49-50 and 54 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

3. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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In claim 3, on line 2, the word "preferably" is indefinite.

Claim Rejections - 35 USC § 102

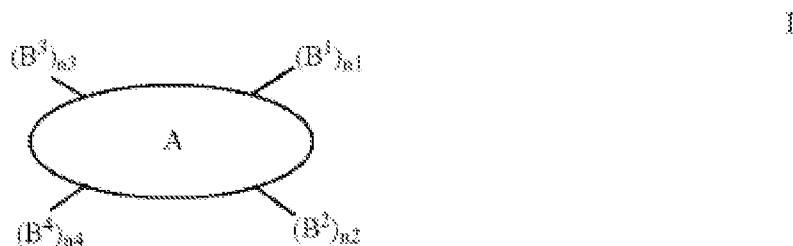
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

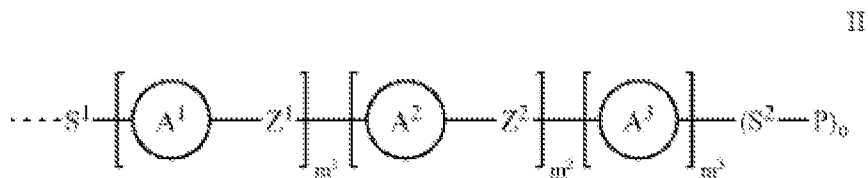
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-5 and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 1,256,602.

6. The reference discloses a mesogenic, crosslinkable mixture comprising at least one polymerizable liquid crystal and at least one polymerizable dichroic dye of the general formula I:



wherein A represents a dichroic residue exhibiting at least partial absorption in the visible region >400 nm and B¹⁻⁴ represent a group of substructure II



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wherein the broken line symbolizes the linkage to said dichroic residue;

A^1 , A^2 , A^3 each independently represents an aromatic or alicyclic group, which is unsubstituted or substituted by fluorine, chlorine, cyano, nitro, or a straight-chain or branched alkyl residue, which is unsubstituted, mono-substituted by cyano or halogeno, or poly-substituted by halogeno, having 1 to 18 carbon atoms, and wherein one or more of the non-adjacent CH_2 groups may independently be replaced by Q, whereby Q represents $—O—$, $—CO—$, $—CO—O—$, $—O—CO—$, $—Si(CH_3)_2—O—Si(CH_3)_2—$, $—NR_2—$, $—NR^2—CO—$, $—CO—NR^2—$, $—NR^2—CO—O—$, $—O—CO—NR^2—$, $—NR^2—CO—NR^2—$, $—CH=CH—$, $—C=C—$, $—O—CO—O—$, and R^2 represents hydrogen or lower alkyl;

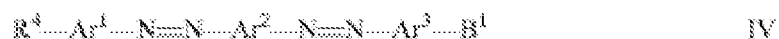
S^1 , S^2 represent a single covalent bond or a spacer unit, such as a straight-chain or branched alkylene residue, which is unsubstituted, mono-substituted by cyano or halogeno, or poly-substituted by halogeno, having 1 to 24 carbon atoms, wherein one or more of the non-adjacent CH_2 groups may independently be replaced by Q, wherein Q has the meaning given above;

Z^1 , Z^2 independently represent a single covalent bond or a spacer unit, such as a straight-chain or branched alkylene residue, which is unsubstituted, mono-substituted by cyano or halogeno, or poly-substituted by halogeno, having 1 to 8 carbon atoms, wherein one or more of the non-adjacent CH_2 groups may independently be replaced by Q, $—N=N—$ or $—CR^2=C—CO—$, wherein Q and R^2 have the meaning given above;

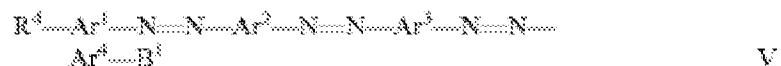
P represents a polymerisable group;

n_1 , n_2 , n_3 , n_4 signifies 0 or 1 whereby the sum of n_1 , n_2 , n_3 and n_4 is >0 .

Dichroic dyes from the class of azo dyes suitable for the inventive mixtures may preferably be selected from the groups according to general formulae III-V:



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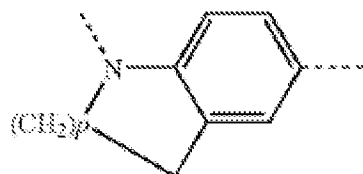


wherein

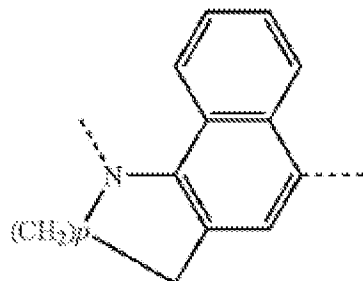
R^4 represents hydrogen, fluoro, chloro, bromo, cyano, nitro, $-NR^2R^3$, a three- to seven-membered cyclic amino group, $-CR^2-CR^3-NO_2$, $-CR^2-CR^3-CN$, $-CR^2-C(CN)_2$, or a straight chain or branched alkyl residue, which is unsubstituted, mono- or poly-substituted by fluorine having 1-18 carbon atoms, wherein one or more of the non-adjacent CH_2 groups may independently be replaced by $-O-$, $-CO-O-$, $-O-CO-$, $-NR^2-CO-$, $-CO-NR^2-$, $-NR^2-CO-O-$, $-O-CO-NR^2-$, $-CH=CH-$, $-C\equiv C-$, $-O-CO-O-$, wherein R^2 and R^3 independently represent hydrogen or lower alkyl;

Ar^1 , Ar^2 , Ar^3 , Ar^4 independently of each other are 1,4-phenylene, 1,4- or 1,5-naphthylene optionally substituted by fluorine, chlorine, hydroxy, $-NR^2R^3$ or by a straight chain or branched alkyl residue, which is unsubstituted, mono- or poly-substituted by fluorine having 1-12 carbon atoms, wherein one or more of the non-adjacent CH_2 groups may independently be replaced by $-O-$, $-CO-O-$, $-O-CO-$, $-NR^2-CO-$, $-CO-NR^2-$, $-NR^2-CO-O-$, $-O-CO-NR^2-$, $-CH=CH-$, $-C\equiv C-$, $-O-CO-O-$, wherein R^2 and R^3 independently represent hydrogen or lower alkyl; and

wherein Ar^1 is also a group of formula a) to c)

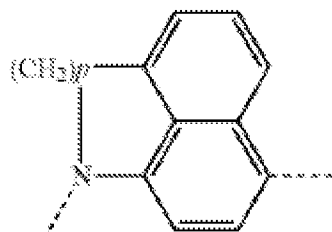


a)



b)

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wherein p is an integer of 1 to 3 and R^4 of formulae III to V is attached to the nitrogen atom; and B^1 has the meaning given above.

Polymerisable groups P are preferably selected from the formulae $CH_2=CW-$, $CH_2=CW-COO-$, $CH_2=CH-CO-NH-$, $CH_2=C(Ph)-CO-NH-$, $CH_2=CH-O-$, $CH_2=CH-OOC-$, $Ph-CH=CH-$, $CH_2=CH-Ph-$, $CH_2=CH-Ph-O-$, $R^3-Ph-CH=CH-COO-$, $R^3-OOC-CH=CH-Ph-O-$, N-maleinimidyl, wherein W is hydrogen, chloro or methyl, R^3 is lower alkyl or lower alkoxy, $Ph-$ is phenyl and $-Ph-$ is 1,4-phenylene.

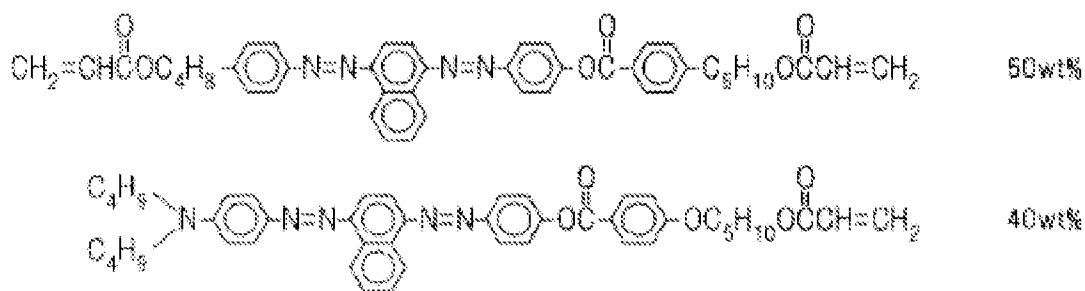
Particularly preferred groups P include $CH_2=CW-$, $CH_2=CW-COO-$, $CH_2=CH-O-$ wherein W is hydrogen or methyl.

The reference formula I with one of $n=1$ and other $n=0$ anticipates the present formula I. Therefore, the reference anticipates the claimed invention.

7. Claims 1-5 and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Ichihashi (JP 2001133630 or equivalent US 6,686,980).

8. The reference discloses an anisotropic membrane for use as polarization film of liquid crystal display element, is obtained by forming hard film by co-polymerization during which orientation of polymerizable dichromatic pigment is maintained. The reference further discloses polymerizable dichroic azo dyes below (see example 3)

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The reference anticipates the claimed invention.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C. Wu whose telephone number is 571-272-1393. The examiner can normally be reached on 10:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kelly Cynthia can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shean C Wu/

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Primary Examiner, Art Unit 1795

scw